

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Caprotti et al.)	
SERIAL NO.:	10/675,171)	
FILED:	September 30, 2003)	Examiner: C. D. Toomer
TITLED:	ADDITIVES AND FUEL OIL COMPOSITIONS)	Art Unit: 1714
)	
)	

Atty. Docket No. 2002M013

Assistant Commissioner for Patents
Washington, DC 20231

RESPONSE

Sir:

This paper is responsive to the Office Action mailed on May 3, 2007.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 4 of this paper.

Amendments to the Claims

1. (Previously Presented) An additive composition that is free of polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising: an additive, (a), comprising salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms, less than 7 mass % of which acids from which salt derivatives are derived having a linear chain and being saturated, and the balance being unsaturated, at least 35 mass % of said balance being polyunsaturated.
2. (Previously Presented) An additive composition that is free of polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising or obtained by mixing: an additive, (a'), comprising salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms, less than 7 mass % of which acids from which salt derivatives are derived having a linear chain and being saturated, and the balance being unsaturated, at least 35 mass % of said balance being polyunsaturated; and either or both of an additive, (b), in the form of an anti-oxidant additive and an additive, (c), in the form of an electrical-conductivity improver additive.
3. (Previously Presented) An additive composition that is free of polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising or obtained by mixing: an additive, (a''), comprising salt derivatives of one or more monocarboxylic acids, each acid having from 10 to 24 carbon atoms; and an additive, (c), in the form of an electrical-conductivity improver additive.
4. (Previously Presented) The additive composition as claimed in claim 1 additionally comprising or obtained by mixing: an additive, (b), in the form of an anti-oxidant additive.
5. (Previously Presented) The additive composition as claimed in claim 1 additionally comprising or obtained by mixing: an additive, (c), in the form of an electrical-conductivity improver additive.
6. (Currently Amended) The additive composition as claimed in claim 1 wherein a major proportion of the ~~unsaturated acids or derivatives of the monocarboxylic acids thereof~~ has 18 carbon atoms.

7. (Original) The additive composition as claimed in claim 6 wherein the acids include oleic acid, linolenic acid and linoleic acid.

8. (Previously Presented) The additive composition as claimed in claim 1 additionally comprising, or obtained by mixing, a carrier or diluent.

9. (Previously Presented) A fuel oil composition that is free of polycyclic carboxylic acids and of acid derivatives thereof comprising, or obtained by mixing, a fuel oil in a major proportion, and an additive composition as claimed in claim 1, in a minor proportion.

10. (Original) The fuel oil composition as claimed in claim 9 wherein the fuel oil is a middle distillate fuel, a jet fuel or a Fischer-Tropsch fuel.

11. (Original) The fuel oil composition as claimed in claim 10 wherein the fuel oil is a middle distillate fuel having a cloud point of -5°C or lower.

12. (Previously Presented) The fuel oil composition as claimed in claim 10 where the fuel oil is a middle distillate fuel containing less than 500 ppm by mass of sulphur.

13. (Previously Presented) A method of operating an internal combustion engine using, as fuel for the engine, a fuel oil composition as claimed in claim 9.

14. (Original) The method of claim 13 wherein the fuel oil is a middle distillate fuel containing less than 500 ppm by mass of sulphur.

15. (Previously Presented) The additive composition as claimed in claim 3 additionally comprising or obtained by mixing: an additive, (b), in the form of an anti-oxidant additive.

REMARKS

In the Office Action, claims 1-15 were pending, and claims 1-15 were rejected. Claim 2 has been amended. Support for the amendment can be found in the application as originally filed. Please consider the following remarks.

I. Rejections under 35 U.S.C. §112

In the Office Action at page 2, number 4, claim 6 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the claim contains salt derivatives of unsaturated acids, and there is no antecedent support in claim 1 for unsaturated acids or derivatives.

Claim 6 has been amended so that there is antecedent support in claim 1 for the claimed subject matter. Therefore, Applicants respectfully request the withdrawal of this rejection.

II. Rejection under 35 U.S.C. §103

In the Office Action at page 3, number 6, claims 1-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 6,610,111 ("Krull"). The Examiner stated that Krull does not teach a composition wherein a plurality of salts of monocarboxylic acids are present, but such would have been obvious to one of ordinary skill in the art because Krull teaches that at least one acid is used and the language "at least one" suggests that a plurality may be present in the composition. Further, with respect to the limitation regarding the salts of the acids, the Examiner states it is well settled that a reference that recites an acid renders obvious the salt of the acid where both the acid and its salt function similarly. Applicants respectfully traverse this rejection.

A. The Present Invention

The present invention as recited in claim 1 is an additive composition that is free of polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising: an additive, (a), comprising salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms, less than 7 mass % of which acids from which salt derivatives are derived having a linear chain and being saturated, and the balance being unsaturated, at least 35 mass % of said balance being polyunsaturated.

The present invention as recited in claim 2 is an additive composition that is free of polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising or obtained by mixing: an additive, (a'), comprising salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms, less than 7 mass % of which acids from which salt derivatives are derived having a linear chain and being saturated, and the balance being unsaturated, at least 35 mass % of said balance being polyunsaturated; and either or both of an additive, (b), in the form of an anti-oxidant additive and an additive, (c), in the form of an electrical-conductivity improver additive.

The present invention as recited in claim 3 is an additive composition that is free of polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising or obtained by mixing: an additive, (a''), comprising salt derivatives of one or more monocarboxylic acids, each acid having from 10 to 24 carbon atoms; and an additive, (c), in the form of an electrical-conductivity improver additive.

B. Krull

Krull discloses a low-temperature-stabilized additive for fuel oils having a sulfur content of up to 0.05 weight percent, comprising fatty acid mixtures comprising A1) from 1 to 99 weight percent of at least one saturated mono- or dicarboxylic acid having from 6

to 50 carbon atoms, A2) from 1 to 99 weight percent of at least one unsaturated mono- or dicarboxylic acid having from 6 to 50 carbon atoms, and at least one polar nitrogen-containing compound which is effective as paraffin dispersant in middle distillates, in an amount of from 0.01 to 90 weight percent, based on the total weight of A1), A2), and B, wherein a mixture of A1) and A2) has an iodine number of at least 40 g of 1/100 g.

C. Traversal of the Rejection

For a proper rejection under Section §103, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The present invention as recited in claim 1 is an additive composition that is free of polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising: an additive, (a), comprising salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms, less than 7 mass % of which acids from which salt derivatives are derived having a linear chain and being saturated, and the balance being unsaturated, at least 35 mass % of said balance being polyunsaturated. As the Examiner stated in the Office Action, Krull does not explicitly teach the additive composition recited in claim 1 because Krull does not teach a composition having salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms.

However, the Examiner alleges that the composition recited in claim 1 is obvious in light of the teaching of Krull because Krull teaches a composition containing certain acids and it would be obvious to use a salt based on the teaching of certain acids. In this instance, such is not true. Here, the facts indicate that the change from an acid to a salt is not trivial as the Examiner seems to imply. Consider the following facts pertaining to this invention. First, unlike an acid, a salt in the claimed composition increases the tendency to make emulsions which could negatively effect the composition. Second, unlike an acid, a salt in the claimed composition gives rise to more interactions with other additives or active chemicals in a fuel to which the claimed composition is added. Third, it took the inventors of the present invention several years to discover the specific salts which are claimed even though they had extensive knowledge about acids.

Based on the facts in this specific instance, the present invention as recited in claim 1 is not obvious in light of Krull. Specifically, the facts of this situation show there was no reasonable expectation of success for the invention based on simply using a salt as opposed to an acid, and a reasonable expectation of success is required under section 103. Therefore, the Applicants respectfully request the withdrawal of this rejection.

Claims 4-14 depend on claim 1 and recite the invention in further embodiments. For the reasons discussed above, Krull does not render claims 4-14 obvious. Specifically, Krull does not teach a composition having salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms, as the facts of this situation show there was no reasonable expectation of success for success of the invention based on simply using a salt as opposed to an acid as the Examiner alleges. Therefore, Applicants respectfully request the withdrawal of this rejection of claims 4-14.

The present invention as recited in claim 2 is an additive composition that is free of

polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising or obtained by mixing: an additive, (a'), comprising salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms, less than 7 mass % of which acids from which salt derivatives are derived having a linear chain and being saturated, and the balance being unsaturated, at least 35 mass % of said balance being polyunsaturated; and either or both of an additive, (b), in the form of an anti-oxidant additive and an additive, (c), in the form of an electrical-conductivity improver additive.

For the reasons stated above, Krull does not teach a composition having salt derivatives of a plurality of monocarboxylic acids each having from 10 to 24 carbon atoms as recited in claim 2. The facts of this situation, which are described above, show there was no reasonable expectation of success for the invention based on simply using a salt as opposed to an acid, and a reasonable expectation of success is required under section 103. Therefore, Applicants respectfully request the withdrawal of this rejection of claim 2.

The present invention as recited in claim 3 is an additive composition that is free of polycyclic carboxylic acids and of acid derivatives thereof, for a fuel oil composition, comprising or obtained by mixing: an additive, (a''), comprising salt derivatives of one or more monocarboxylic acids, each acid having from 10 to 24 carbon atoms; and an additive, (c), in the form of an electrical-conductivity improver additive.

For the reasons stated above, Krull does not teach a composition having salt derivatives of a plurality of monocarboxylic acids each having from 10 to 24 carbon atoms as recited in claim 3. The facts of this situation, which are described above, show there was no reasonable expectation of success for the invention based on simply using a salt as opposed to an acid, and a reasonable expectation of success is required under section 103. Therefore, Applicants respectfully request the withdrawal of this rejection of claim 3.

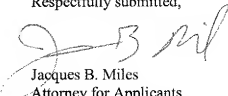
Claim 15 depends on claim 3 and recites the invention in a further embodiment.

For the reasons discussed above, Krull does not render claim 15 obvious. Specifically, Krull does not teach a composition having salt derivatives of a plurality of monocarboxylic acids, each having from 10 to 24 carbon atoms, as the facts of this situation show there was no reasonable expectation of success based on simply using a salt as opposed to an acid as the Examiner alleges. Applicants respectfully request the withdrawal of this rejection of claim 15.

VII. Conclusion

Based upon the foregoing, it is submitted that the claimed invention now claimed is in condition for allowance. The Applicants therefore request that the application now be passed to issue.

Respectfully submitted,



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